



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

Handwritten signature

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/051,973

01/16/2002

Toru Kitayama

393032030300

1562

25224

7590

03/10/2005

MORRISON & FOERSTER, LLP
555 WEST FIFTH STREET
SUITE 3500
LOS ANGELES, CA 90013-1024

EXAMINER

WARREN, DAVID S

ART UNIT

PAPER NUMBER

2837

DATE MAILED: 03/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/051,973

Applicant(s)

KITAYAMA ET AL.

Examiner

David S. Warren

Art Unit

2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-48 and 50-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,2,8,10,11,27-48 and 50-53 is/are allowed.
- 6) ☒ Claim(s) 3-5,9 and 12-26 is/are rejected.
- 7) ☒ Claim(s) 6 and 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 November 2002 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 17 and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner questions the Applicant's use of a double negative ("no rise position was not detected") in claims 17 and 22. While acceptable, the Examiner believes this to be contrary to Applicant's intended meaning. As such, the Examiner has rejected these claims based on the interpretation that "no rise position was not detected" to mean "a rise position is/was detected."

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 13 – 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Miyake (5,256,832). As stated in the previous Office Action: Miyake discloses detecting beat information from audio waveform data. Regarding claim 13, Miyake discloses the waveform analysis method to determine beat position comprising the steps of identifying sections of an original waveform data as containing presumed beat positions (i.e., beat interval A is the time span between RPS and RPE having a deviation of DR wherein a beat is “presumed” – see col. 12, fifth paragraph), detects a plurality of rise positions in the identified sections (fig. 3), and the step of analyzing the rise positions to extract one rise position as a dividing position of the original waveform. The Examiner maintains that Miyake selects every rise position (this includes Applicant’s one rise position) and divides the original waveform data into beats. Regarding independent claim 18, all limitations are discussed supra except the step of allocating a plurality of predetermined sections based upon the presumed beat position in the original waveform data. Miyake “allocates” sections BT (beat interval) based on presumed beat position (col. 12, seventh paragraph). Regarding independent claim 25, all limitations have been discussed supra, except the processor and storage device. Miyake discloses a processor (CPU 3) and storage device (7). Applicant’s claim 26, appears to combine limitations from claims 13, 18, and 25, all of which have been discussed supra. Regarding claims 14, 15, 19, and 20, Miyake shows the use of a threshold level, above and/or below this level is considered a chosen range and since this is a “beat detector” this chosen range will occur at each beat, i.e., regular intervals and in accordance with rhythm tempo. Regarding claims 16 and 21, Miyake shows the use of two thresholds

(fig. 3); one for determining the trigger amplitude and one for calculating attack offset.

Regarding claims 23 and 24, Miyake shows the use of a computer (3); the use of a computer program code is inherent. Regarding claims 17 and 22 (see §112 rejection above), as written, where “no rise position was not extracted” appears to be equivalent to “a rise position extracted” – as such, the Examiner is interpreting this to merely be a the extraction of a second rise position (which Miyake does for every beat).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3 – 4, 9, and 12 rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada et al. (5,614,687) in view of Miyake ('832). Regarding claims 3 and 12, Yamada discloses the method of waveform data analysis comprising the steps of performing a filter process for removing components of a frequency band from an original waveform (band pass filter 2, fig. 11), a step of detecting an extracted waveform subjected to the filter process (not necessarily an envelope waveform), a step of calculating a differential value of a waveform (Yamada discloses the use of a “slice value” defined as a signal “indicative of a reduced value, for example, a 75% value, of

Art Unit: 2837

the maximum value detected by the peak data holding circuit 3 and outputs it" - col. 3, lines 26 – 29), and the step of determining dividing positions of the original waveform data on the basis of the differential values (i.e., beats are "dividing positions"). The "slice value" of Yamada is deemed equivalent to a differential value since 1) it is not a fixed value, 2) is a difference relative to the peak value, and 3) provides a standard of comparison (i.e., a differential) by which to extract each beat. While Yamada does disclose detecting a predetermined frequency component (see the paragraph bridging columns 1 and 2), Yamada does not disclose the use of detecting an envelope of the waveform data. Miyake discloses the use of using an envelope of a waveform to extract beat data (see fig. 3). It would have been obvious to one of ordinary skill in the art to combine the teachings of Miyake and Yamada to obtain a wave analysis (i.e., to determine dividing positions in the waveform). The motivation for making this combination is that envelope detection, while well-known, provides an amplitude signal without the possibility of noise and hence, increases accuracy. Regarding claim 9, Miyake discloses the use of a CPU (3) and Yamada discloses a microcomputer (col. 4, lines 27 – 31). Regarding claims 4 and 5, Yamada discloses that the "slice value" is based on peak values (see above) and that the amplitude of the slice value can be reduced (or increased) as a function of an extracted frequency component. Since an envelope can be extracted via a filtering process, the Examiner maintains that the "extracted frequency component" of Yamada and the "envelope detecting" of the Applicant is functionally equivalent, especially since both are using the results to extract beat data.

Allowable Subject Matter

Claims 6 and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. These claims contain the limitation regarding setting the time difference T_d .

Claims 1, 2, 8, 10, 11, 27 – 48, and 50 - 53 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: Regarding claims 1, 2, 8, 10, and 11, the prior art does not disclose selecting a filtering parameter on the basis of waveform type. The prior art relies on filtering all audio input in a similar fashion without regard to waveform type.

Regarding claims 27 – 40 and 50 – 52, the prior art does not disclose the method of receiving a musician generated waveform and converting it into waveform data synchronously with a generated sound and tempo clock, storing the waveform data in parallel with automatic performance information, and the step of recording synchronization control data indicative of successive time relationship between the automatic performance information reproduced successively and the waveform data stored successively in correspondence with storage of the waveform data.

Regarding claims 41, 42, 45, 47, and 53, the prior art does not disclose the use of storing “the rise times of partial waveform data in association with the partial waveform data having the waveform data of the additional section added thereto.”

Regarding claims 43, 44, 46, and 48, the prior art does not disclose the use of modifying the reproduction start timing of the waveform nor reading out divided waveform sections in accordance with the modified start times.

Response to Arguments

Applicant's arguments with respect to claim 3 and 12 - 26 have been considered but are moot in view of the new ground(s) of rejection. The Examiner would only add that the “differential values” as defined by the Applicant appear to perform a function (as defined in Applicant's specification – pages 49 – 52) that is equivalent to that of both Miyake and Yamada. Specifically, the Applicant's specification uses differential values to “extract effective rise portions.”

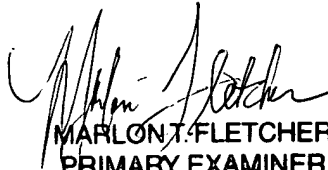
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David S. Warren whose telephone number is 571-272-2076. The examiner can normally be reached on M-F, 9:30 A.M. to 6:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin can be reached on 571-272-2800 ext 37. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

dsw


MARLON T. FLETCHER
PRIMARY EXAMINER